

REMARKS

Claims 1-11, 14-17, 19-20 and 22-23 are pending in the present application after amendments are entered. Claims 1, 4-9, 13, 14, 17 and 21-23 are amended to better define the present invention. Claim 12 is cancelled without prejudice. Claims 13 and 21 are withdrawn.

Support for amendment in claims 1 and 14 is found in paragraphs [0032] and [0033] and in figures 4C and 5C. No new matter has been introduced.

Objections to drawings under 37 CFR 1.83(a)

The drawings are objected to by the Examiner under 37 CFR 1.83(a) for not showing every feature of the invention specified in the claims. The Examiner requires the finishing steps to be shown or the feature(s) cancelled from the claim(s). In response, the Applicants withdraw claims 13 and 21.

Claim Objections/rejections

Claims are objected to by the Examiner because of improper English. In response, the Applicants have amended the claims to conform with current U.S. practice. Grammatical and idiomatic errors have been corrected.

Examiner rejects claims 22-23 for lack of antecedent basis. In response, the Applicants have amended the claims accordingly.

Rejection of Claims 1-3, 12, 14-16, 19 and 22 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over U.S. Patent No. 7,478,469

The Examiner is of opinion that although the conflicting claims are not identical, they are not patentably distinct from each other. Claims 1-3, 12, 14-16 and 22 are deemed to be substantially similar to claim 1 of '469 and claim 19 is deemed to be substantially similar to claim 5 of '469.

Applicants respectfully traverse the rejections for the following reasons:

US 7,478,469 relates to a method and apparatus for assembling a two-piece skin door comprising a bottom skin and a top skin, wherein each of the bottom and top skins'

longitudinal edges have been bent and folded to complementarily hem each other in an interlocking manner to form a seam.

The method comprises the steps of: holding the bottom skin in an upwardly open pan manner; holding the top skin in an inverted pan manner, wherein its folded and hemmed edges are aligned with the corresponding edges of the bottom skin; and pushing the top skin to insert said top skin's folded edge into the bottom's skin corresponding folded edge to form the interlocking seam.

However, US 7,478,469 does not teach or suggest the feature of "engaging the at least one profiled edge of said second skin with the at least one profiled edge of the first skin to form a channel" and "applying a locking means into said channel so that said locking means cause an interference fit within the channel such that said first and second skins become removeably locked together" as substantially recited in claims 1 and 14 in the present invention.

In US 7, 478,469, the mating of the substantially parallel and complementary edge profiles by moving the skins together result in a tight fit; however, the same action in the present invention does not give the same result. As the two profiled edges in the present invention do not form a tight fit, much less effort is needed to move the two skins together and the two skins, at this stage, may also be easily moved apart again for any reason. See paragraph [0029] of the Detailed Description of the present invention. The tight fit in the edge profiles of the skins in the present invention, is only accomplished by applying the locking means into the channel to cause an interference fit, yet the first and second skins are removeably locked together.

Therefore, Applicants respectfully submits that, after these amendments are entered, Claims 1-3, 14-16, 19 and 22 are distinctly patentable over U.S. Patent No. 7,478,469; accordingly, this double patenting rejection is now traversed.

Rejections of Claims 1-17 and 19-23 under 25 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 4,589,240 (Kendall, et al.) and further in view of U.S. Patent No. 6,141,930 (Allwein, et al).

Examiner rejects claims 1-12, 14-17, 19-20 and 22-23 under 35 USC 103(a) as being unpatentable over Kendall et al. (U.S. Patent 4,589,240). Further, the Examiner

rejects claims 13 and 21 under 35 USC 103(a) as being unpatentable over Kendall et al. (U.S. Patent 4,589,240) in view of Allwein et al. (U.S. Patent 6,141,930).

Applicants believe that these rejections have been traversed by the current claim amendments:

After amendments, the present invention discloses a method for assembling two or more skins of a metal structure comprising: disposing a first skin with at least one profiled edge onto a work surface; overlaying a second skin with at least one profiled edge on said first skin so that the at least one profiled edge of said second skin engages with the at least one profiled edge of the first skin to form a channel; and applying a locking means into said channel so that said locking means cause an interference fit within said channel such that said first and second skins become removeably locked together, as recited in claim 1. The metal structure is substantially recited in claim 14.

Kendall, on the other hand, discloses a method of forming a panel for overhead doors wherein the two metal skins are pressed toward each other during manufacture, to compress the pre-formed resilient foam core and to position the hook portions of the skins' side flanges for interlocking engagement when the compressive forces are relieved. When the compressive forces are released, the hook portions with the thermal barrier elements (20) interposed therebetween, then shift into secure interlocking relation. See column 2, lines 27-40 of Kendall.

In other words, compressive forces are required for the assembly operation of the door panel of Kendall. The assembly of the metal structure in the present invention, on the other hand, does not involve any compressive forces, and is simply accomplished by overlaying the second skin to engage its profiled edge with the profiled edge of the first skin and applying a locking means into the channel formed by the engaged profiled edges by creating an interference fit within the channel such that the first and second skins are removeably locked together.

Kendall also does not disclose anything with regards to the subsequent disassembly of the door panel.

Further, the thermal barrier element (20) of Kendall serves a different function and effect as compared to the locking means of the present invention. The locking means of the present invention are used for removeably locking the first and second skins together,

and the engagement can be reversible or irreversible depending on the choice of the locking means.

The thermal barrier element (20) of Kendall is not used to facilitate ease of assembly/disassembly of metal structure. Instead, the thermal barrier element (20) of Kendall has the function and effect of preventing direct contact between the inner and outer skins of each panel in the area of interlock between those panels to provide a thermal break between the inner and outer skins notwithstanding the interlocking relationship of their hook portions 18a and 19a. The barrier elements (20) also seal the interior of the panel against the entry and exit of gases and particulates, and provide a resilient external bead/cushion for engaging a similar bead of an adjacent panel to form a weather-tight seal.

In the Office Action, Examiner points out that the use of welding on a structure with intermediate fastener is disclosed by Allwein. However, combining Allwein's reference with Kendall still does not teach/suggest applying a locking means into a channel formed by the engaged profiled edges of the two or more skins of the metal structure of the present invention.

Therefore, Applicants respectfully submit that neither Kendall alone nor in combination with Allwein teach or suggest all the features/steps of claims 1-11, 14-17, 19-20 and 22-23; accordingly, Examiner's rejection under 35 USC 103(a) are now traversed.

Applicant now respectfully submit that the pending claims are patentably distinguished and therefore request that a timely Notice of Allowance be issued in this case for this patent application to proceed.

Respectfully submitted,

By 

George D. Liu

Reg. No. 47,752

Tel.: (703) 536-1713